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CENTRE FOR AGRICULTURE AND BIOSCIENCES INTERNATIONAL

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Nematological Abstracts

A quarterly journal compiled from the CAB ABSTRACTS database.
Produced by the DIVISION OF CROP PROTECTION AND GENETICS
in association with the International Institute of Parasitology

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The Department of Crop Protection also prepares: *Review of Plant Pathology, Nematological Abstracts, Weed Abstracts, Plant Growth Regulator Abstracts* and *Seed Pathology and Microbiology.*

How to use Nematological Abstracts

• Either BROWSE, using the CONTENTS

Within each issue, records are sequenced according to their principal subject matter - see CONTENTS page. About three quarters of the records are arranged by CROP, so browsing is particularly useful to crop specialists.

• Or SEARCH, using the INDEXES

Subject indexes and author indexes are compiled monthly and cumulated annually.

SUBJECT INDEX

This guides the user to all the records that make significant reference to specific topics, including the following:

INVERTEBRATE SPECIES AND GROUPS

Scientific names are used. These entries provide the most detailed indexing, pointing also to taxonomy, physiology, ecology, biology, distribution, hosts, natural enemies, control, etc. Records that refer only to groups are indexed under group names, e.g. Coleoptera, mites.

HOST PLANT SPECIES AND GROUPS

English common names are used for major crops, scientific names for minor crops and other plants. Entries point also to invertebrates or other subjects. Records that refer only to groups are indexed under group names, e.g. cereals, vegetables.

COUNTRY OR REGION

For records where geographical occurrence is of particular relevance.

AGROCHEMICALS etc.

Including common or chemical names, with cross-references from proprietary names.

PATHOGENS

Scientific names are used for pathogens of invertebrates and plants. Groups such as entomogenous fungi, nuclear polyhedrosis viruses are also indexed.

HABITATS

E.g. forests, grasslands, greenhouses, orchards, pastures, soils. Entries relate particularly to beneficial organisms and environmental effects.

OTHER HEADINGS

The main ones are listed here. Scan the ANNUAL INDEX for a more complete picture.

*Acaricides
*Arthropod pests
*Arthropods
*Beneficial arthropods
*Beneficial insects
Bibliographies
Biological control
Books
Conferences
Cultural control
Equipment
*Forest pests
Galls
Genetics
*Insect pests
*Insecticides (and related terms)
*Insects
Integrated control
Integrated pest management
Keys
Migration
Molecular genetics
*Parasitoids
*Pest control
*Pest resistance
*Pesticides
Pheromones
Pollination
Pollution
*Predators
Quarantine
Rearing techniques
Reports
Reviews
Sampling
Sex pheromones
Stored products
Techniques
Traps
*Weeds

*Terms used to index records that do not refer to specific arthropods, chemicals or plants.

AUTHOR INDEX

All authors of each paper are indexed alphabetically by surname. Variants of surnames are also indexed.

A TYPICAL RECORD

This contains various numbers and combinations of fields (items of information) depending on the document type. The sample abstract given below contains 10 of the most important and common fields. These appear in the order indicated in the list below.

1 Abstract number
2 Author
3 Title in English
4 Original title if in Roman script
5 Journal or other document
6 Year, volume, part number and pagination
7 Language of text, language of summaries, bibliographic details
8 Organization where work was carried out
9 Abstract
10 Preferred name, if the author uses another name

The title should be read as an integral part of the abstract.

1531 MATEILLE, T. **[Biochemical reactions provoked by three phytoparasitic nematodes in roots of *Musa acuminata* (AAA Cavendish group) cv. Poyo and Gros Michel.]** Réactions biochimiques provoquées par trois nématodes phytoparasites dans les racines de *Musa acuminata* (group AAA) variétés Poyo et Gros Michel. *Fundamental and Applied Nematology* (1994) **17** (3) 283-290 [Fr, en, 35 ref.] ORSTOM, 01 B.P. V51, Abidjan 01, Côte-d'Ivoire.

Radopholus similis, Helicotylenchus multicinctus and *Hoplolaimus pararobustus* were inoculated on *vitro*-planted specimens of *Musa acuminata* (AAA triploid) cv. Poyo and Gros Michel reared in containers. The evolution of concn of total phenols and indols, and of peroxidase, polyphenol oxidase [catechol oxidase] and lyase activities was related to nematode densities in the roots. Histochemical measurements confirmed these observations. The same metabolic pathways occurred in healthy plants of both cultivars but they were more intense in one than the other. Compatibility of Poyo to *R. similis* was due to a high polyphenoloxidase activity. Gros Michel, which is less compatible to this nematode, was characterized by a higher peroxidase activity. The polyphenol pathway was more intense in Poyo than in Gros Michel. *H.multicinctus* and *H. pararobustus* did not change the phenol metabolism significantly. It is concluded that compatibility of *M. acuminata* to phytoparasitic nematodes depends both on the cultivars and the nematode species.

TO OBTAIN A COPY OF THE ORIGINAL ITEM

Use the CAB INTERNATIONAL Document Delivery Service. A form is printed in this issue.

LIST OF JOURNALS CITED

The annual index includes an alphabetical list of all journals cited during the year.

ABBREVIATIONS

A number of easily understood abbreviations are used (e.g. sp., species). Initial letters may be used for a virus after its full name has appeared. The following are also used:

a.i.	active ingredient	EM	electron microscope	PAGE	polyacrylamide gel electrophoresis
coeff.	coefficient	FW	fresh weight	RH	relative humidity
conc.	concentrated	ID	infective dose	SEM	scanning electron microscope
concn	concentration(s)	IU	International unit	str.	strain
CV	coefficient of variation	J_2	second-stage juvenile(s)	TEM	transmission electron microscope
DM	dry matter	LC	lethal concentration		
DW	dry weight	LD	lethal dose		
ED	effective dose	LT	lethal time		
ELISA	enzyme-linked immunosorbent assay	*NA*	*Nematological Abstracts*		

In abbreviations for languages an initial capital denotes the language of the paper, an initial small letter the language of the summary.

Af	Afrikaans	Eo	Esperanto	Ja	Japanese	Pt	Portuguese
Al	Albanian	Es	Spanish	Ko	Korean	Ro	Romanian
Ar	Arabic	Fi	Finnish	La	Latin	Ru	Russian
Az	Azerbaijani	Fr	French	Li	Lithuanian	Sh	Serbo Croat
Be	Belarussian	Gr	Greek	Lv	Latvian	Sk	Slovak
Bg	Bulgarian	He	Hebrew	Ma	Macedonian	Sn	Slovenian
Ch	Chinese	Hi	Hindi	My	Bahasa Malaysia/ Malay	Sv	Swedish
Cs	Czech	Hu	Hungarian			Ta	Tajik
Da	Danish	Ia	Interlingua	Nl	Dutch, Flemish	Th	Thai
De	German	In	Indonesian	No	Norwegian	Tr	Turkish
Ee	Estonian	Is	Icelandic	Pe	Persian	Uk	Ukrainian
En	English	It	Italian	Pl	Polish		

CAB INTERNATIONAL Division of Crop Protection and Genetics

How the crop protection abstract journals are compiled

Review of Agricultural Entomology *Nematological Abstracts*
Review of Plant Pathology *Weed Abstracts*

Their purpose

These four journals are designed to keep readers in touch with developments in the crop protection sciences, by abstracting the more important world scientific literature and by publishing review articles. A calendar of crop protection events is included. The abstracts are intended to be full enough for readers to decide whether they need to see the original documents.

The scale and diversity of the agricultural source literature

Over 10,000 journals and other serial publications on agriculture and allied disciplines are received regularly by CAB INTERNATIONAL; these comprise more than 50,000 documents annually. Over 3000 books and other non-serials are also received each year. Publications are received from some 130 countries in more than 50 languages. Even though English is increasingly the international language of science, some 40% of the literature is in other languages.

Scanning and abstracting the source literature of crop protection

All these documents are scanned by CABI subject specialists and are available to the CABI Division of Crop Protection and Genetics. About 3000 journals, and numerous new books, are scanned regularly in the Division, whose staff includes specialists in entomology, plant pathology, nematology, weed science, plant genetics, and also linguists.

These specialists identify items within the scope of the four crop protection journals - broadly, scientific documents about agriculturally significant pests (invertebrates, plant pathogens and weeds), beneficial organisms, and relevant crop protection practices and products.

For each item, a record is created consisting of:

- bibliographic information
- an abstract, in English
- subject coding
- index terms.

The CAB ABSTRACTS database

These records are added to the CAB ABSTRACTS bibliographic database. This machine-readable database contains all records published since 1973 in about 50 CABI abstract journals. The total of nearly 3 million records is growing by more than 150,000 new records per year, of which about 21,000 per year are on crop protection. The database is available to users for retrospective retrieval and for maintaining current awareness of literature on defined topics. See separate page, and inside back cover.

The crop protection abstract journals

At intervals, relevant records newly added to the database are selected and become the basis for a new issue of one of the crop protection journals. Records are sorted into a standard sequence within each journal issue, according to subject matter. An author index and a subject index are generated. Cumulative indexes are generated at the end of each year.

Scientific links

Each of the four crop protection journals has its own international Editorial Advisory Board of subject specialists. Their members advise on the content and development of the journals, and commission review articles of topical interest.

The CABI Division of Crop Protection and Genetics maintains close contact with the International Institute of Entomology (IIE), the International Mycological Institute (IMI), the International Institute of Parasitology (IIP) and the International Institute of Biological Control (IIBC). These links are especially important in providing the authority for the preferred names of pest organisms used in the journal indexes. IIBC is responsible for compiling the related abstract journal *Biocontrol News and Information.*

The Division of Crop Protection and Genetics maintains close contact with subject specialists in four other Divisions of the CABI Information Services who compile 45 abstract journals covering the rest of agriculture, forestry and allied disciplines. Comments from users are always welcome. Please write to Mr Geoffrey A. Viney, Division of Crop Protection and Genetics, CAB INTERNATIONAL, Wallingford, Oxon OX10 8DE, UK.

CAB INTERNATIONAL Electronic Publications

CAB ABSTRACTS Database

All of the abstracts and citations published in any of the CABI Abstract Journals are derived from a computerised database known as CAB ABSTRACTS. The database, containing over 2.7 million records, and its various subsets are available in several electronic formats, as follows:

Online

Publicity available worldwide through the following online hosts:

- DIALOG
- DIMDI
- DataStar
- CAN/OLE
- ESA-IRS
- STN

Electronic Journals

All CABI Abstract Journals on floppy disk, in comma-delimited, Pro-Cite or ISO2709 format.

Update frequency is the same as for the printed journal.

Data available on either 3.5" or 5.25" high density diskettes.

CD-ROM (Compact Disk Read Only Memory)

CABCD

Three volumes containing the entire CAB ABSTRACTS database since 1984.

CAB SPECTRUM

An array of subject-specific CD-ROMs:

VETCD - 20 years of information on Veterinary Science and Animal Health.
BEASTCD - 20 years of information on Animal Production and Dairy Technology.
TREECD - 50 years of information on Forestry, Agroforestry & Forestry Products.
CABPESTCD - 20 years of information of Crop Protection.
SOILCD - 20 years of information on Soils, Water and Land Management.
HORTCD - 20 years of information on Horticulture, Ornamental Horticulture and Plantation Crops.

CAB COLLECTION

PolTox III:CAB - Environmental pollution and toxicology information since 1983.
Human Nutrition on CD-ROM - 10 years of data from CAB ABSTRACTS, FSTA, Medline and the Life Sciences Collection.

Current Awareness

SDI Service

Based on the most recent input to the CAB ABSTRACTS database.

Subscribers decide their own search profile.

Monthly search results on computer printout or floppy disk.

Full bibliographic details and informative abstracts for the records retrieved.

CAB Alerts

Similar to the SDI service, but with titles and search strategies chosen by CABI staff.

Monthly output is provided on computer printout.

Retrospective Searches

An online retrospective search of the CAB ABSTRACTS database.

Provides citations and abstracts to published papers in the subject area of choice.

Search output is available on computer printout or floppy disk.

For more details of these, or any other CABI Electronic Publications, contact the
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Tropical Plant Nematology Advisory and Research: J. Bridge, MSc, PhD, CBiol
Tropical Parasitic Diseases: S. Townson, MSc, PhD
Entomophilic Nematodes: W.M. Hominick, MSc, PhD

The International Institute of Parasitology (IIP), founded in 1929, has a staff of about 32 and provides taxonomic identification, research, consultancy and contract services to world agriculture and medicine. The Institute is an International centre for the systematics of parasitic helminths of animals and man, and plant parasitic and entomophilic nematodes. Publications include research papers, books, monographs and keys (details on request).

Institute staff are active in project work in many parts of the world, acting as consultants or researchers for a variety of international and national agencies. IIP staff contribute as advisers to field and survey work, and provide an authoritative service for the nematodes and helminths collected.

Identification Services

IIP provides an authoritive identification service to agricultural, biological and medical scientists throughout the world. The service handles plant parasitic and entomophilic nematodes and helminth parasitic of animals and man. The services are backed by well documented and extensive reference collections including those of several eminent helminthologists; living cultures of plant parasites nematodes are maintained in the IIP greenhouses; living cultures of entomophilic nematodes are also maintained. IIP's team of specialists is also involved in research including taxonomic revision of economically important groups of helminths and plant parasitic nematodes and the production of identification aids. Details of charging and advice on collection, preservation and despatch of specimens for identification are available on request. The identification service is provided free of charge to non commercial users in CABI member countries and at moderate cost to users in non-member countries and in commercial organizations. This policy has been reviewed and charges will be introduced in 1994.

Tropical Plant Nematology Advisory and Research Unit

The unit provides an advisory service to countries in the sub-tropics and tropics, as an adjunct to the identification services provided at the Institute. It gives practical information and advice on the economic importance and control methods that can be employed on nematodes identified. Staff are available for consultancies on nematode problems and can undertake surveys of individual crops or regions, plan workshops or give in-country advice on existing nematode projects and problems. Staff are engaged in funded research on tropical nematodes in glasshouses and laboratories at the Institute, which also provides facilities for visiting research workers. The unit is part of a "Research Group for Nematodes in Tropical and Subtropical Agriculture" formed between the Institute and theAFRC Institute of Arable Crops Research, Rothamsted,UK.

Tropical Parasitic Diseases Unit

The unit carries out research projects directed towards the prevention and treatment of human tropical parasitic diseases. Reasearch at IIP has focused on onchocerciasis, lymphatic filariasis and malaria and thier arthropods vectors, and is funded by major international agencies such as WHO and the Edna McConnell Clark Foundation. These projects are part of a world-wide multidisiplinary research effort to find and develop new drugs and vaccines, and involve collaboration between pharmaceutical companies, university and institute based on research groups and clinical groups working in field trials.

Training

IIP offers both formal and informal training courses and facilities for visiting workers. Training is particuarly orientated towards scientists and extension workers in developing countries. Courses of six weeks duration, on the identification of helminth parasites or plant parasitic nematodes of economic importance, are offered in alternate years to groups of fifteen participants.

Supervised individual study periods of up to 12 month is offered by IIP's specialists and facilities are available for postgraduate studies for higher degrees or as part of a higher degree course. IIP is an associated Institute of the University of London. Visiting workers in relevant fields of research are welcome to use the facilities and expertise available at IIP.

Library

The IIP library offers a specialist collection of over 6600 books, 231 serial titles and over 28,000 reprints on helminthology, protozoology and plant nematology available to outside users. Computer terminals permit on-line retrieval from the world's major databases, including CAB ABSTRACTS, and offers a photocopying service as part of CABI Document Delivery Service. IIP collaborates with the Information Services of CABI in the production of books and journals in its field.

Futher details

Please write or telephone for our current brochure or further information on specific services you require.

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Acta Agriculturae Boreali-Occidentalia Sinica
Acta Agriculturae Zhejiangensis
Acta Horticulturae
Acta Mycologica Sinica
Acta Phytopathologica et Entomologica Hungarica
Acta Phytopathologica Sinica
Acta Phytophylacica Sinica
Acta Societatis Zoologicae Bohemoslovacae
Acta Zootaxonomica Sinica
AFRC News
Afro-Asian Journal of Nematology
Agricultural Research (Washington)
Agricultural Research Review
Agriculture, Ecosystems & Environment
Agroforestry Systems
Agroforestry Today
Agronomía Costarricense
Agronomia Sulriograndense
Agronômico
Agronomy Journal
Agropecuária Catarinense
Allelopathy Journal
American Potato Journal
Anais da Sociedade Entomológica do Brasil
Analele Institutului de Cercetări pentru Protecţia Plantelor, Academia de Ştiinţe Agricole şi Silvice
Analytical Chemistry (Washington)
Anhui Forestry Science and Technology
Annales Zoologici
Annals of Agricultural Research
Annals of Agricultural Science (Cairo)
Annals of Agricultural Science, Moshtohor
Annals of Applied Biology
Annals of Forestry
Annals of Plant Protection Sciences
Annals of the Entomological Society of America
Annals of the New York Academy of Sciences
Annals of the Phytopathological Society of Japan
Annual Report of the Society of Plant Protection of North Japan
Anzeiger für Schädlingskunde, Pflanzenschutz, Umweltschutz
Applied Entomology and Zoology
Arab Journal of Plant Protection
Arboriculture Fruitière
Archives of Environmental Contamination and Toxicology
Arkansas Farm Research
Arquivos do Instituto Biológico (São Paulo)
ASCOLFI Informa
Aspects of Applied Biology
Australasian Plant Pathology
Australian Journal of Experimental Agriculture
Australian Journal of Marine and Freshwater Research
Bangladesh Journal of Plant Pathology
Barley Genetics Newsletter
Bayerisches Landwirtschaftliches Jahrbuch
Behavioural Processes
Bio/Technology
Biochemistry and Molecular Biology International
Biocontrol Science and Technology
BioEssays
Biológia (Bratislava)
Biological Control
Biology and Fertility of Soils
Biology of the Cell
Bioresource Technology
Bitki Koruma Bülteni
Biuletyn Instytutu Hodowli i Aklimatyzacji Roślin
Boletín de Sanidad Vegetal, Fuera de Serie
Boletín de Sanidad Vegetal, Plagas
Boletín Técnico - Estación Experimental Agropecuaria, Balcarce
Bollettino Società Italiana di Biologia Sperimentale
Botanicheskiĭ Zhurnal
Bragantia
Buletin Perkebunan
Bulletin - Connecticut Agricultural Experiment Station
Bulletin de l'Institut Royal des Sciences Naturelles de Belgique, Biologie
Bulletin de l'OIV
Bulletin de la Société Entomologique d'Égypte
Bulletin OEPP
Bulletin of Faculty of Agriculture, University of Cairo
Bulletin of Taichung District Agricultural Improvement Station
Bulletin of the Kyushu National Agricultural Experiment Station
Bulletin of Zoological Nomenclature
Bulletin OILB/SROP
Cahiers de Biologie Marine
California Agriculture
Canadian Entomologist
Canadian Journal of Botany
Canadian Journal of Forest Research
Canadian Journal of Plant Science
Capsicum Newsletter
Cell (Cambridge)
Centro Agrícola
Cercetări Agronomice în Moldova
China's Fiber Crops
Chinese Agricultural Science Bulletin
Chinese Journal of Biological Control
Chinese Tobacco
Chinese Vegetables
Ciência Biológica, Ecologia e Systemática
Ciencia e Investigación Forestal
Circular - Instituto Agronômico do Paraná
Colture Protette
Comparative Biochemistry and Physiology. B, Comparative Biochemistry
Comparative Biochemistry and Physiology. C, Comparative Pharmacology and Toxicology
Comptes Rendus de l'Académie d'Agriculture de France
Critical Reviews in Plant Sciences
Crop Genetic Resources
Crop Protection
Crop Science
Current Biology
Current Nematology
Current Opinion in Cell Biology
Current Opinion in Genetics & Development
Current Research - University of Agricultural Sciences (Bangalore)
Development (Cambridge)
Developmental Biology
Difesa delle Piante
Disinsectional Microorganism
Dissertation Abstracts International. B, Sciences and Engineering
DLG-Mitteilungen Agrar-Inform
DNA Sequence
Ecological Modelling
Ecologist
Ecology
Ecossistema
Edible Fungi
Ekológia, ČSFR
EMBO Journal
Entomologica Fennica
Entomophaga
Environment and Ecology
Environmental and Resource Economics
Environmental Entomology
Environmental Health Criteria
Environmental Pollution
Environmental Research (New York)
EPPO Technical Document
Ergebnisse Landwirtschaftlicher Forschung an der Justus-Liebig-Universität
Euphytica
European Journal of Forest Pathology
Experimental Mycology
FAO Plant Production and Protection Paper
FAO Plant Protection Bulletin

FEMS Microbiology Letters
Fitopatología
Fitopatologia Brasileira
Fitopatologia Colombiana
Fitopatologia Venezolana
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Forage Notes
Forest Ecology and Management
Forest Pest and Disease
Forest Science and Technology of Shandong
Forestry Science & Technology (Heilongjiang)
Forestry Science and Technology of Yunnan Province
Fresenius Environmental Bulletin
Fruit Trees Science and Technology of Sichuan
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Fujian Fruit Tree
Functional Ecology
Fundamental and Applied Nematology
Fungicide and Nematicide Tests
Gemüse (München)
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Genes & Development
Genetica
Genetics
Genome
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GrowerTalks
Gulf Research Reports
Haryana Agricultural University Journal of Research
Hassadeh
Helminthologia
Himachal Journal of Agricultural Research
Historia Animalium
HortScience
HortTechnology
Hubei Agricultural Science and Technology
Hydrobiologia
Hydrobiological Journal
Illinois Research
IMPACT AgBioIndustry
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Indian Journal of Hill Farming
Indian Journal of Mycology and Plant Pathology
Indian Journal of Nematology
Indian Journal of Parasitology
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Informe Anual - Centro Internacional de la Papa
Inligtingsbulletin - Instituut vir Tropiese en Subtropiese Gewasse
Insect Science and its Application
International Chickpea Newsletter
International Journal for Parasitology
International Journal of Pest Management
International Journal of Tropical Agriculture
International Rice Research Notes
Investigação Agrária, Cape Verde
Investigación Agraria, Producción y Protección Vegetales
IPM Practitioner
Iranian Journal of Plant Pathology
Izvestiya Timiryazevskoĭ Sel'skokhozyaĭstvennoĭ Akademii
Japanese Journal of Applied Entomology and Zoology
Japanese Journal of Nematology
JARQ, Japan Agricultural Research Quarterly
Jiangsu Agricultural Chemical
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Journal - American Society of Sugar Cane Technologists
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Miscellaneous Reports - Agricultural Research Institute, Ministry of Agriculture and Natural Resources (Nicosia)
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Philosophical Transactions of the Royal Society of London. Series B, Biological Sciences
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Special Report - Agricultural Experiment Station, Division of Agriculture, University of Arkansas
Subtropical Plant Research Communications
Tabacco
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Themaboekje - Proefstation en Informatie- en Kenniscentrum voor de Akkerbouw en de Groenteteelt in de Vollegrond
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Vegetable Grower
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World Agriculture
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Zeitschrift für Pflanzenkrankheiten und Pflanzenschutz
Zhejiang Nongye Kexue
Zimbabwe Journal of Agricultural Research
Znanost i Praksa u Poljoprivredi i Prehrambenoj Tehnologiji
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